CONTINUITY SHEET FOR REEL #2.

ELEMENTS OF THE AUTOMOBILE.

M T Part 2

M T The Bray Pictures Corporation
presents
"ELEMENTS OF THE AUTOMOBILE"
by
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assisted by
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M T Produced for
The Education
And Recreation Branch
General Staff
under the supervision
of the
Motor Transport Division
Quartermasters Corps
United States Army.

Sub The Differential (Continued)

Sub As long as the wheels are fastened to one shaft, they cannot turn independently. The shaft is therefore divided into two parts.

Sc 1 Medium shot.of the rear end of the car. Driven gear dissolves out. Straightbar axle dissolves to two separate axles. Flash to close up of same. Flash to medium shot. Action of wheels turning independently, first one, then the other.

Sub A mechanism called the differential is used. It permits the axle-shafts to revolve independently while receiving power from the engine.

Sc 2 Medium shot of rear end of car with the differential complete. Action of wheels turningaat equal speeds. Flash to close up. Action. Flash to medium shot. Chain comes in and ties left rear wheel. Action of the right wheel.

Sub A bevel gear is fastened solid on the end of each shaft.

Sc 3 Close up of two ends of shaft. Side gears dissolve in. Flash to medium shot of same. Action of each wheel turning back and forward.

Sub A bevel pinion connects them.

Sc 4 — Close up of side gears. Bevel pinion dissolves in.

Sub — When this pinion is rotated it turns the bevel gears.

Sc 5 — Close up of the side gears and one bevel pinion. Action at equal speeds.

Sub — If the wheels are required to turn at equal speeds, the pinion merely acts as a lock.

Sc 6 — Medium shot. Two side gears and one pinion. Action of wheels turning at equal speeds. Flash to close up in action.

Sub — One wheel may be stopped completely. The other wheel then gets all the power.

Sc 7 — Medium shot. Chain comes in and fastens right rear wheel. Action of left. Flash to close up in action.

Sub — The wheels could be turned in opposite directions

Sc 8 — Medium shot of the two side gears and pinion. Action of right wheel going forward and the left wheel going in reverse direction. Flash to close up of same in action.

Sub — Or they may turn in the same direction at different speeds as in going around a curve.

Sc 9 — Medium shot of rear end of car. Two side gears and pinion. Action of right wheel going faster than the left. Flash to close up in action.

Sub — One pinion is not strong enough. Four are usually employed.

Sc 10 — Close up of side gears and one pinion. Three others dissolve in.

Sub — The action is just the same.

Sc 11 — Close up. Four pinions and two side gears. Action of the right shaft turning faster than the left.

Sub — The pinions are mounted on a big gear through which power is delivered from the engine.

Sc 12 — Close up of side gears and four pinions. Driving gear and spider dissolve on. Flash to long shot. Propellor shaft and pinion dissolve in. Action of dummy engine driving rear wheels at equal speeds. Flash to medium shot. Action. Flash to close up in action.

Sub — This big gear is not fastened to the shaft but turns loosely on it.

Sc 13	Close up of big gear revolving on shaft.
Sub	It is not even directly connected to the bevel gears.
Sc 14	Close up of big gear. Side gears dissolve in. Action of large gear.
Sub	The small pinions connect the big gear with the bevel gears.
Sc 15	Close up of large gear and two side gears. Pinion and spider dissolve in. Action of differential turning as a unit.
Sub	The big gear, of course, gets its power from the propellor-shaft.
Sc 16	Close up of differential and driving pinion. Action.
Sub	Let us trace the application of power to the rear wheels, beginning with the engine.
Sub	(1) The engine turns the propellor-shaft, which turns the axle drive pinion.
Sc 17	Medium shot of rear end of car. No differential shown. Just the propellor-shaft and pinion. Pointer indicates them. Action of propellor-shaft and pinion.
Sub	(2) The pinion drives the axle-drive bevel gear.
Sc 18	Medium shot of rear end of car. No differential shown. Just propellor-shaft and pinion. Large gear dissolves on. Action of propellor-shaft and large gear.
Sub	The bevel gear carries the four differential pinions.
Sc 19	Close up of large gear, four pinions and spider. Also propellor-shaft pinion. Action of propellor-shaft pinion turning large gear.
Sub	The pinions turn the axle-shafts by means of the differential side gears. (Both side gears are needed or the axle-shafts cannot be turned.)
Sc 20	Close up of differential without side gears. One side gear dissolves in. Action of the propellor-shaft turning large gear. Pause. Other side gear dissolves on. Action of whole as a unit. Flash to medium shot of same in action.

M S — The Axle Housing.

Sub — It would be poor construction to allow the frame to rest on the axle-shafts as shown.

Sc 1 — Medium view. Rear end of car showing differential. Pointer indicates supports.

Sub — The axle-shafts and differential are enclosed in the axle housing, which carries the load.

Sc 2 — Rear wheels and differential (no frame) supported on pedestals. Rear axle housing dissolves in place. Pause. Frame and propellor-shaft dissolve in.

Sub — The axle construction shown here is called the full floating axle.

Sub — In this type, the only duty of the axle shafts is to turn the wheels.

Sc 3 — Medium shot. Frame, rear axle, housing and wheels. Dissolves to section of housing. Pointer indicates two shafts. Action.

Sub — The wheels fit on the ends of the housing.

Sc 4 — Medium shot of rear end of car. Housing in section. Wheels and differential dissolve out. Wheels dissolve in.

Sub — This rear axle may be said to consist of two axles.
(1) The driving axle.

Sc 5 — (no frame) Rear wheels and differential supported on pedestals. Action of differential turning as a unit, both wheels turning at equal speeds.

Sub — (2) The supporting axle, or axle housing.

Sc 6 — Medium shot. Rear end. Differential encased in rear axle housing.

M S — The Front Axle.

Sub — The front axle is dropped to act as a fender for the protection of the engine.

Sc 1 — Straight on view of front straight axle. Engine and frame dissolve out. Wheels dissolve out. Straight bar axle dissolves to dropped axle. Wheels dissolve on. Frame and simple engine dissolve in.

M S — Springs.

Sub — The weight of the car is carried by the front and rear axles.

Sc 1 — Long shot of elementary car. Everything dissolves out but the front and rear ~~wheels~~ axles.

Sub — Springs are placed between the axles and the frame to take up the shocks.

Sub — At the rear axle they are fastened to the axle housing.

Sc 2 — Long shot of both axles. Rear springs dissolve in.

Sub — At the front they are fastened directly to the front axle.

Sc 3 — Long shot of front and rear axle. Springs dissolve in on front axle.

Sub — The frame rests on the springs.

Sc 4 — Long shot of front and rear axles and springs. Frame dissolves on. Wheels, dummy engine and the steering mechanism dissolve on.

Sc 5 — Cartoon of two men carrying a sign which reads as fellows:

Sub — End of Part 2.

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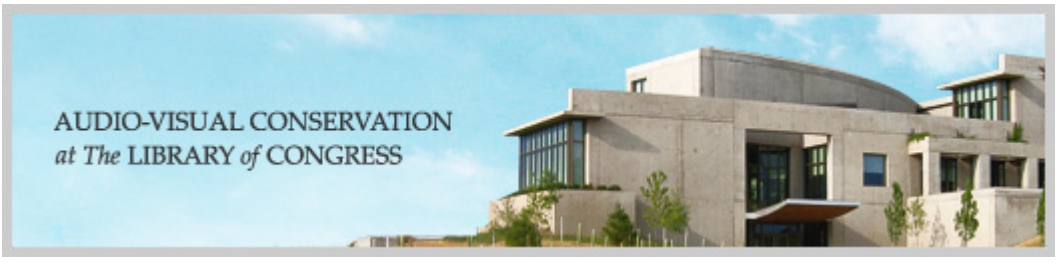

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